**3GPP TSG-SA WG6 Meeting #51-e meeting S6-22xxxx**

**10th – 19th October 2022, Online**

**Title: LS on Support PIN application architecture and interaction**

**Response to:**

**Release: Rel-18**

**Work Item: FS\_PINAPP**

**Source:** **3GPP TSG SA WG6#51-e**

**To: SA2, SA3**

**Cc:**

**Contact person: Huazhang Lv**

 **Huazhang.lv@vivo.com**

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:** None

# 1 Overall description

SA6 is currently studying the Study on Application layer support for Personal IoT Network as part of a Release 18 Study Item (FS\_PINAPP). As a part of the study, some of the solutions in PINAPP (refer to 3GPP TR 23.700-78) are referred to the procedures defined in SA2 and SA3. SA6 would like to share some questions in order to complete and aligned these solutions.

**SA6 observation 1:**

As indicated in Section 7.3.2.1, Section 7.4.2.2.1 and Section 7.5.2.2.2 of 3GPP TR 23.700-78, there is an ENs that describes below:

Editor's note: The access control information should be coordinated with SA2 and wait for further update.

The access control information is configured by PIN server (AF) to PIN during the PIN creation/modification procedure, and the access control information includes: user name, account, SSID, BSSID. All the information is used by PIN elements (PINAPP) in PIN to access 5G or access other application outside of PIN.

**Q1 To SA2:** Is 5GC involved in making decisions or providing access control information to PIN server (AF) during PIN creation/modification procedure? If yes, and what’s the details of access control information?

**SA6 observation 2:**

As indicated in Section 7.3.2.2 of 3GPP TR 23.700-78, there is an ENs that describes below:

Editor's Note: Whether and how the 5GC involved in the PIN creation is FFS.

The procedure in Section 7.3.2.2 describes that the PEMC sends the PIN creation request to PIN server (AF) and the PIN server performs an authorization check to verify whether the PINAPP (PEMC) has authorization to perform the operation.

**Q2 To SA2:** Whether and how the 5GC involved in the PIN creation procedure? If the 5GC is involved in the PIN creation procedure, what and how to PIN server interact with 5GC?

**SA6 observation 3:**

As indicated in Section 7.13.2.2.2 of 3GPP TR 23.700-78, there is an ENs that describes below:

Editor's note: whether and how to 5GS check the UE identified by the GPSI has subscribed to be a PEMC is in SA2 scope.

The procedure in Section 7.13.2.2.2 describes that the PEMC registers to PIN server, and PIN server interacts with the 5GS to check whether the UE identified by the GPSI has subscribed to be a PEMC.

**Q3 To SA2:** Whether and how to the 5GS to check the UE identified by the GPSI has subscribed to be a PEMC.

**SA6 observation 4:**

As indicated in Section 7.15.2.2 of 3GPP TR 23.700-78, there is an ENs that describes below:

Editor's note: How to the PIN server interacts with 5GS to establish PDU session for PINE is in SA2 scope.

The procedure in Section 7.15.2.2 describes that the PINE sends PINE 5GS connection request (PIN ID, PINE ID, Packet filters, [DN-specific ID]) to the PEGC, and the PEGC sends PINE 5GS connection request (PIN ID, PEMC ID, PEGC ID, PINE ID, Packet filters) to the PIN server. The PIN server will check with the 5GS that whether this PINE has the subscription to communicate with other PINE via 5GS. And if the PINE has the subscription, the PIN server acts as an AF and will interact with 5GS to create/update the QoS flow of PEGC for the PINE.

In order to support to arrange the 5GS resource to PIN, that there exists two method: PIN server triggers the 5GC to establishment new PDU session or new QoS flow in an existing PDU session.

**Q4 To SA2:** Whether and how the PIN server interacts with 5GS to establish PDU session/QoS flow for PINE?

**SA6 observation 5:**

As indicated in Section 7.15.2.3 of 3GPP TR 23.700-78, there is an ENs that describes below:

Editor's note: How to the PIN server interacts with 5GS to receive credentials is in SA2 scope. And the definition and architecture of credentials for PINE is in SA3 scope.

The procedure in Section 7.15.2.3 describes that PINE sends Credential Provisioning Request (PIN ID, PINE ID, Duration) to the PEGC. And the PEGC sends the Credential Provisioning Request to the PEMC and the PEMC sends Credential Provisioning Request (PIN ID, PEMC ID, PEGC ID, PINE ID, Duration) to the PIN server. The PIN server interacts with 5GS and receives the credential from 5GS.

**Q5 To SA2 and SA3:** Whether and how the PIN server interacts with 5GS to receive the credentials? How to design the architecture of credentials for PINE?

**SA6 observation 6:**

As indicated in Section 7.4.2.2.1 and 7.4.2.2.3 of 3GPP TR 23.700-78, there is an ENs that describes the security procedure between PIN client and PEMC below:

Editor's note: The authorization procedure between PIN client and PEMC should be captured in SA3 scope.

Also, in Section 7.5.2.2.1 of 3GPP TR 23.700-78, there is an ENs that describes the security procedure between PEMC and PIN server:

Editor's note: The security credentials design and the authorization procedure is in the scope of SA3.

In solutions of TR 23.700-78, there are several procedures that needs the interaction between PINE (PIN client) and PEMC, for example, PIN client to join a PIN.

Also, in the solution of TR 23.700-78, there are several procedures that needs the interaction between PEMC and PIN server, for example, the PEMC requests the PIN server to delete the PIN and the PIN server authorizes the request. The PIN client is the enabler layer that deployed on PINE, PEMC and PEGC.

**Q6 To SA3:** Whether and how to design the authorization/authentication procedure between PIN client in PINE and PIN client in PEMC, and the authorization/authentication procedure between PIN client in PEMC and PIN server? How to design the security credentials in authorization procedure?

# 2 Actions

**To SA2, SA3**

**ACTION:** SA6 asks SA2 and SA3 to kindly consider above request and provide answers.

# 3 Dates of next TSG SA WG 6 meetings

SA6#52 14nd November – 18st November 2022 Toulouse, France

SA6#52-Bis-e 16nd January – 25th January 2023 e-meeting